

TUNING FORK POINT LEVEL SWITCHES

For High/Low Liquid Levels



LTU-2000 Series



- ✓ Unique Tuning Fork Technology, Unaffected by Variations in Density, Conductivity, Dielectric, Foam, Tank Agitation or Vibration
- ✓ 316 SS Construction with Optional ETFE Coating
- ✓ 0.1% Accuracy, 0.5 mm Repeatability
- ✓ Models Available with Fixed or Adjustable Time Delay



All shown smaller than actual size.

The LTU-2000 Series tuning fork level switches are point level switches that detect high or low liquid levels. Based on the vibrating tuning fork principle, these units accurately detect contact with a liquid, triggering a switching output. Depending on the liquid viscosity, the LTU-2000 is virtually immune to chemical or physical properties, and can be installed at any angle into a pipe or tank. Recalibration is not required between batches, and units may be cleaned in place. Models are available with PNP, NPN or relay.

Model	LTUP	LTUR	LTUM1	LTUM2
Power	20 to 60 Vdc	20 to 60 Vdc 20 to 264 Vac	20 to 60 Vdc	85 to 264 Vac
Output	PNP (3-wire)	SPDT relay 5 A @ 250 Vac	PNP (3-wire)	NPN (3-wire)
Load Current	500 mA	—	500 mA	500 mA
Electrical Connection	Cable gland or ½ NPT	Cable gland or ½ NPT	DIN 43650 plug	DIN 43650 plug
Time Delay	1 to 20 sec adjustable	1 to 20 sec adjustable	1 sec	1 sec
Enclosure	Glass filled nylon	Glass filled nylon	316 SS DIN 43650	316 SS DIN 43650
Operating Ambient	-10 to 80°C (14 to 176°F)	-10 to 80°C (14 to 176°F)	-10 to 120°C (14 to 248°F)	-10 to 120°C (14 to 248°F)
Protection	NEMA 4 (IP65)	NEMA 4 (IP65)	NEMA 6 (IP67)	NEMA 6 (IP67)



SPECIFICATIONS

Viscosity: 0.5 to 5000 cSt

Power Consumption: ± 3 mA

Switching Point: 12 mm from tip

Accuracy: $\pm 0.1\%$

Repeatability: ± 0.5 mm

Wetted Parts: 316 SS

Max Pressure: 50 bar (725 psi)

Dimensions:

DIN 43650 Plug (LTUM Models

Only): 27 Dia x 80 mm H
(1.0625 x 3.125")

Nylon Head: 88 W x 80 mm H
(3.5 x 3.125")**

Aluminum Head: 89 Dia x 126 mm H
(3.5 x 5")**

Insertion Length, "D" Dimension:

80 mm (3.15") standard; measure

from bottom of hex to tip of fork

** Available on LTUR and LTUP models only.

Standard Configurations

To Order	
Model No.	Description
LTUP-2011	Tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, $\frac{3}{4}$ NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2011	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, $\frac{3}{4}$ NPT connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2041	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, 1.5" tri-clamp connection, nylon enclosure, standard 80 mm (3.15") insertion depth
LTUR-2012	Tuning fork level switch, 20 to 264 Vac/20 to 60 Vdc power, 5 A SPDT relay output, 316 SS, $\frac{3}{4}$ NPT connection, aluminum enclosure with $\frac{1}{2}$ NPT conduit, standard 80 mm (3.15") insertion depth
LTUM1-2014	<i>Replaced by LTUM1-3014.</i>
LTUM2-2014	Tuning fork level switch, 85 to 264 Vac power, NPN output, 316 SS, $\frac{3}{4}$ NPT connection, DIN 43650 plug, standard 80 mm (3.15") insertion depth

Model No.	Description
LTUP-2(A)(B)(C)-(D)	Custom tuning fork point level switch; PNP output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D)
LTUR-2(A)(B)(C)-(D)	Custom tuning fork point level switch; relay output; Select wetted material (A), process connection (B), enclosure (C) and insertion length in inches (D). <i>(Model LTUR-2022 replaced by LTUR-3022.)</i>
LTUM1-2(A)(B)(4)-(D)	Custom tuning fork point level switch; PNP output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)
LTUM2-2(A)(B)(4)-(D)	Custom tuning fork point level switch; SSR output, with miniature plug; Select wetted material (A), process connection (B), enclosure (4) and insertion length in inches (D)

Options Ordering

Ordering Suffix Description	
A-Wetted Materials	
0	316 SS
1	ECTFE/ETFE coating; flange connections recommended
B-Process Connection	
1	$\frac{3}{4}$ NPT thread
2	1 NPT thread
3	1 $\frac{1}{2}$ NPT thread
4	1.5" Tri-Grip™, sanitary*
5	2" flange, ANSI, 150# 316 SS
Others	Consult Engineering with details
C-Enclosure	
1	Glass filled nylon with $\frac{1}{2}$ NPT conduit with cable gland**
2	Aluminum die cast with $\frac{1}{2}$ NPT conduit entry**
3	Aluminum die cast with cable gland entry
4	316 SS DIN 43650; for LTUM units only
D-Insertion Length	
D (in)	Rod length (in); 1.5 m (60") maximum

* Tri-Grip™ (Tri-Clamp® compatible).

Comes complete with operator's manual.

Ordering Examples: **LTUP-2011**, tuning fork level switch, 20 to 60 Vdc power, PNP output, 316 SS, $\frac{3}{4}$ NPT connection, nylon enclosure, 80 mm insertion depth.

LTUM2-2014, tuning fork level switch, 85 to 264 Vac power, SSR output, 316 SS, $\frac{3}{4}$ NPT connection, DIN 43650 plug, 80 mm insertion depth.

Dimensions: mm (inch)

